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EXAMINER

VITAL, PIERRE M

ART UNIT

PAPER NUMBER

2188

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/739,265

Applicant(s)

YASOSHIMA, HIROYUKI

Examiner

Pierre M. Vital

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,9,10,16,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,9,10,16,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendments and arguments filed on 27 December 2004 in response to the office action mailed on 5 October 2004 have been fully considered, but they are not persuasive. Therefore, the grounds of rejection made in the previous office action are maintained and restated below, with changes as needed to address the amendments.

Response to Arguments

2. Applicant's arguments filed May 25, 2005 have been fully considered but they are not persuasive. As to the Remarks, Applicant asserts that:

(a) APA does not disclose a boundary pointer which indicates an end point of a first buffer.

Examiner respectfully disagrees. Examiner would like to point out that pointer A and pointer B serve as boundary areas for FIFO B and FIFO A, respectively. Note that on page 3, lines 21-23, APA discloses data is written into FIFO A until write pointer A reaches pointer B. Thus, it can be clearly seen that pointer B represents an end point for FIFO buffer A as claimed by Applicant.

(b) O'Neill does not disclose a boundary pointer which can change in a circulating fashion.

This feature is disclosed by APA in Fig. 2B; page 3, line 20 to page 4, line 8.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 10, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1).

As in claim 6, APA discloses a system comprising:

a ring buffer which acts as one ring, having a plurality of address locations for storing incoming data (Fig. 2B);

a first boundary pointer for indicating an end point of a first buffer area formed within the ring buffer in to which the incoming data can be stored (Fig. 2B; page 3, lines 20-22);

a second boundary pointer for indicating an end point of a second buffer area formed within the ring buffer into which the incoming data can be stored (Fig. 2B; page 3, lines 20-22);

a first read pointer, coupled to the memory array, for indicating a read address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

a first write pointer, coupled to the memory array, for indicating a write address of the first buffer area (Fig. 2B; page 3, line 20 to page 4, line 8);

a second read pointer, coupled to the memory array, for indicating a read address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8); and

a second write pointer, coupled to the memory array, for indicating a write address of the second buffer area (Fig. 2B; page 3, line 20 to page 4, line 8),

wherein the first write pointer and second write pointer are separated from the first boundary pointer and second boundary pointer (Fig. 2B); and

each of the first read pointer, first write pointer, second read pointer, second write pointer, first boundary pointer and second boundary pointer, is capable of moving in a circulating fashion within the plurality of address locations of the ring buffer (Fig. 2B; page 3, line 20 to page 4, line 8).

APA teaches a combined read/boundary pointer and therefore does not teach that the first and second read pointers are separate from the first and second boundary pointers, nor does APA teach a controller for adjusting the value of the first and second boundary pointers in accordance with the amount of incoming data to be stored as required by claim 6.

APA also does not teach that the controller dynamically varies the value of the first and second boundary pointers during operation in response to the amount of incoming data to be stored as required by claim 10.

As to claim 6, O'Neill teaches a system where first and second boundary pointers

indicating end points of a first and second buffer are separate from the buffer read and write pointers (Fig. 3, elements A, B, TOP and BOTTOM; page 3, lines 10-21), thereby enabling a controller to adjust the value of the first and second boundary pointers in accordance with an amount of incoming data to be stored, and allowing the sizes and relative sizes of the buffers to be varied (Page 2, lines 8-13; page 2, line 26 to page 3, line 2; page 3, lines 22-27).

Regarding claim 6, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to define boundary pointers separate from the read and write pointers, and use a controller to adjust the values of the first and second boundary pointers in accordance with the amount of incoming data to be stored as taught by O'Neill, in the system of APA, in order to allow the sizes and relative sizes of the buffers to be varied as taught by O'Neill.

As to claim 10, O'Neill discloses that the controller dynamically varies the value of the boundary pointers during operation in response to the amount of incoming data to be stored (Page 2, line 26 to page 3, line 2; page 3, line 24 to page 4, line 7). Because O'Neill indicates that the boundaries are altered as an adaptation to monitored traffic flows, and also describes a method to move the boundaries while the first-in/first-out buffer is occupied with data, it may be understood that this process takes place dynamically. O'Neill further teaches that this process saves memory and allows memory to adapt to traffic in a network (Page 4, lines 4-7).

Regarding claim 10, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to dynamically vary the value of the first and second boundary pointers during operation in response to the amount of incoming data as taught by O'Neill, in the system of APA, in order to save memory and allow adaptation to traffic in a network as taught by O'Neill.

Claims 16 and 20 are rejected using the same rationale as for the rejection of claims 6 and 10, respectively.

5. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) in view of O'Neill (WO 96/38778 A1) as applied to claims 6 and 16 above, and further in view of Kornher (US 6,094,695).

APA and O'Neill are relied upon for the teachings relative to claims 6 and 16 as above.

The combination of APA and O'Neill does not teach that the controller operates to move the first and second boundary pointers so as to increase the size of the buffers on the basis of a 1:1 correspondence with the amount of incoming data as required by claims 9 and 19.

Kornher teaches a controller operating to move a boundary pointer so as to increase the size of a buffer on the basis of a 1:1 correspondence with an amount of incoming data (Fig. 3; column 6, lines 22-58).

Kornher also teaches that moving the boundary allows the buffer size to increase and decrease as needed, thereby allowing a smaller amount of memory space to be reserved for data storage (column 2, lines 54-62).

Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to move the boundary pointers on the basis of a 1:1 correspondence with an amount of incoming data as taught by Kornher, in the system made obvious by the combination of APA and O'Neil, in order to increase and decrease the buffer size as needed and allow a smaller amount of memory space to be reserved for data storage as taught by Kornher.

Claim 19 is rejected using the same rationale as for the rejection of claim 9 above.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. The examiner requests, in response to this Office action, support be shown for language added to any original claims on amendment and any new claims. That is, indicate support for newly added claim language by specifically pointing to page(s) and line no(s) in the specification and/or drawing figure(s). This will assist the examiner in prosecuting the application.


8. When responding to this office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present, in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections See 37 CFR 1.111(c).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre M. Vital whose telephone number is (571) 272-4215. The examiner can normally be reached on 8:30 am - 6:00 pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 2, 2005


PIERRE VITAL
PRIMARY EXAMINER